

## AMENDMENTS TO THE CLAIMS:

1.(currently amended): A method for retransmission of a lost packet in a fading channel in a communications system including a transmitter and a receiver, said method comprising the steps of:

receiving ~~wherein~~ at the transmitter, ~~after it receives~~ a negative acknowledgement (NACK) from the receiver, said NACK pointing ~~pointed~~ to a specific data packet; ~~and from the receiver,~~

re-transmitting multiple copies of the specific data packet ~~is retransmitted~~ with ~~multiple copies, and~~ a delay ~~[[is]]~~ inserted between ~~two~~ each consecutive copy ~~copies~~.

2.(currently amended): The method according to claim 1, wherein with regard to said multiple copies, the number of ~~multiple~~ copies of the specific data packet to be retransmitted is ~~acquired by calculation, based on the~~ a number of times the specific data packet has been re-requested (NACK-ed), current retransmission of the specific data packet, and wherein the number of ~~multiple~~ copies increases ~~as is also increased along with the increase of~~ number of retransmissions increases.

3.(currently amended): The method according to claim 1, wherein ~~provision of said the~~ number of ~~multiple~~ copies of the specific data packet to be retransmitted increases linearly ~~makes linear increase~~ along with the number of retransmissions, such that when ~~said current retransmission~~ the number of retransmissions of the specific data packet is  $i^{\text{th}}$  retransmission, ~~[[and]]~~ then the ~~current~~ number of copies of the specific data packet to be re-transmitted is  $i + 1$ .

4.(currently amended): The method according to claim 1, wherein ~~provision of said~~ the number of ~~multiple~~ copies of the specific data packet to be retransmitted increases exponentially ~~makes exponential increase~~ along with the number of retransmissions, such that when ~~said~~ current retransmission the number of retransmissions of the specific data packet is  $i^{\text{th}}$  retransmission, ~~[[and]]~~ then the current number of copies of the specific data packet to be re-transmitted is  $2^i$ .

5.(currently amended): The method according to claim 1, ~~wherein said retransmission~~ with inserting a delay between two consecutive copies of the specific data packet, further includes the following steps:

[[A]] setting ~~Setting~~ at least two queues, including a transmission queue and a retransmission queue, at the transmitter;

[[B]] storing ~~Storing~~ new data packets, which will be transmitted, in the transmission queue, and storing ~~store~~ copies of a data packet, which will be retransmitted, in the retransmission queue;

[[C]] determining ~~Determining~~ whether the ~~current~~ retransmission queue is ~~in the~~ state of empty or not;[[,]]

if the ~~current~~ retransmission queue is empty, then transmitting data packets in the transmission queue ~~with the~~ by a first-in-first-out principle; and

if the ~~current~~ retransmission queue is not empty, then transmitting the copies of the data packet in the retransmission queue ~~with by~~ interleaving transmission.

6.(currently amended): The method according to claim 5 wherein said transmitting the copies of the data packet in the retransmission queue ~~with~~by interleaving transmission includes the steps of:

~~setting~~ Setting a minimum value for a length of time ~~length~~ of an interleaving retransmission interval by a timer;

~~selecting~~ Selecting from the retransmission queue one copy of ~~every~~ each retransmission data packet, and transmitting them in ~~[[an]]~~ the interleaving retransmission interval time length ~~with~~ by the first-in-first-out principle; and

if within the minimum value of the interleaving retransmission interval time length, all ~~of the~~ selected one copy of ~~every~~ each retransmission data packet ~~have~~ has been transmitted, then with the first-in-first-out principle, transmitting the data packets in the transmission queue until the interleaving retransmission interval is ended based on the ~~[[by]]~~ minimum value of the interleaving retransmission interval time length which is set by ~~[[a]]~~ the timer.

7.(currently amended): The method according to claim 6, wherein if within the minimum value of the interleaving retransmission interval time length, all of the selected one copy of ~~every~~ each retransmission data packet in the retransmission queue ~~have~~ has been transmitted, and the transmission queue is also empty, then transmission is stopped until the minimum value, set by the timer, of the interleaving retransmission interval time length ends this interleaving retransmission interval.

8.(currently amended): The method according to claim 6, wherein when an interleaving retransmission interval ends, if the retransmission queue is not empty, then a new interleaving retransmission interval is started ~~at interval transmission~~; and if the retransmission queue is empty, then the interleaving retransmission is ended and the data packets in the transmission queue are transmitted using the ~~with~~ first-in-first-out principle ~~are transmitted~~.

9.(currently amended): The method according to claim 6, wherein ~~said~~ the length of the interleaving retransmission interval is the larger of the following two time length ~~should be longer than~~ 1) said minimum value of interleaving retransmission interval time length and ~~at the same time, it should be larger than~~ 2) said maximum ~~value of~~ number of different data packets in the retransmission queue.

10.(currently amended): The method according to claim 5, wherein ~~with~~ said data packet copies in retransmission queue includes copy queues, each copy queue holding one copy of each specific data packet requiring re-transmission, the specific data packets requiring re-transmission each having a sequence number, and each copy queue holding the one copy of each specific data packet requiring re-transmission according to the sequence number ~~the same data packet copies are acquired by calculation, which are the retransmission copy numbers of the specific data packet, and stored in the copy queues according to the sequence number, each copy queue containing one copy of different data packets.~~

11.(currently amended): The method according to claim 5, wherein said retransmission queue includes copy queues, and ~~said step of~~ interleaving retransmission of data packet copies in

the retransmission queue further includes: starting from ~~the~~ a first copy queue of the retransmission queue, ~~with transmitting by the~~ first-in-first-out principle ~~transmitting~~ every data packet copy in each copy queue until the last copy queue; and when all the copy queues are empty, ending the interleaving transmission and starting ~~start~~ to transmit the data packets in said transmission queue.

12.(currently amended): The method according to claim 11, wherein ~~said~~ transmitting every data packet copy in ~~each~~ a next copy queue is executed only when the current copy queue is empty, and then the next copy queue can be transmitted.

13.(currently amended): The method according to claim 11, wherein the sequence of transmitting from the first copy queue ~~said transmitting~~ until the last copy queue, includes ~~[[the]]~~ copy queues which are not ~~without~~ storing ~~[[of]]~~ a data packet copy.

14.(currently amended): The method according to claim 11, wherein the number of copy queues in said copy queue, ~~the copy queue number~~ is equal to or greater than the number of retransmission copies of the specific data packet, ~~which is acquired by calculation~~.

15.(currently amended): A method for retransmission of a lost packet in a fading channel, in a communications system including a transmitter and a receiver, comprising the following steps:

~~[[A]]~~ setting ~~Setting~~ at least two queues in the transmitter, including~~[[,]]~~ a transmission queue and a retransmission queue;

[[B]] ~~storing~~ Storing new data packets, which will be transmitted, in the transmission queue, and storing the copies of the lost data packet, the number of which is ~~are~~ defined by ~~current~~ a number of retransmission, in the retransmission queue;

[[C]] ~~determining~~ Determining whether the retransmission queue is ~~in the state of~~ empty or not, and when the current retransmission queue is empty, ~~with~~ transmitting by a first-in-first-out principle, ~~transmitting~~ data packets in the transmission queue; and when the current retransmission queue is not empty transmitting[[[,] the data packet copies in the retransmission queue with an interleaving transmission;

[[D]] ~~setting a~~ Setting the minimum value of time length of interleaving retransmission interval by a timer, selecting one copy of every retransmission data packet from the retransmission queue, transmitting them in every interleaving retransmission interval by the first-in-first-out principle;

if before the end of an interleaving retransmission interval, one copy of every retransmission data packet in the retransmission queue has been transmitted, then with first-in-first-out principle, transmitting data packets in the transmission queue until the end of the minimum value, set by the timer, of the interleaving retransmission interval time length, and then, ending the interleaving retransmission interval and starting next one interleaving retransmission interval;

if before the end of the minimum value of the interleaving retransmission interval time length, one copy of all data packets in the retransmission queue has been transmitted and the transmission queue is empty, then stopping transmission until the end of the minimum value, set by the timer, of the interleaving retransmission interval time length, and then, ~~ending~~ the

interleaving retransmission interval will be ended and starting the next interleaving transmission interval; and

when an interleaving retransmission interval is ended and the retransmission queue is empty, then transmitting data packets in the transmission queue by first-in-first-out principal.

16.(currently amended): A method for retransmission of lost packets in a fading channel, in a communications system including a transmitter and a receiver, the method comprising the following steps:[[:]]

[[A]] ~~setting~~ Setting at least two queues in the transmitter, including a transmission queue and a retransmission queue;

[[B]] ~~storing~~ Storing new data packets, which will be transmitted, in the transmission queue, and storing copies of lost packets, the number of which ~~[[are]]~~ is defined by a current number of retransmission, in the retransmission queue;

[[C]] ~~determining~~ Determining whether the retransmission queue is ~~in the state of~~ empty or not, and when the ~~current~~ retransmission queue is empty, transmitting using a ~~with~~ first-in-first-out principle, ~~transmitting~~ data packets in the transmission queue; and

when the current retransmission queue is not empty, transmitting the data packet copies in the retransmission queue ~~with a~~ by multiple queue polling transmission;

[[D]] ~~setting~~ Setting copy queues in the retransmission queue with sequence number, each copy queue including one copy of different data packet, starting from a first copy queue, and with first-in-first-out principle, transmitting every data packet copy in each copy queue in sequence, starting only after sending out all the copies in one queue the next copy queue

transmission until the final copy queue, and when all the copy queues are empty, ending the polling transmission and starting the transmission of said transmission queue.

17.(currently amended): A method for retransmission of a lost packet in a fading channel, in a mobile communication system including a transceiver, comprising the steps of: [[,]]  
transmitting by said transceiver a packet to a receiver;  
~~or providing a plurality of copies of a special packet,~~  
when the transceiver receives information which indicates that the receiver does not receive the a specific packet generating a plurality of copies of the specific packet; [[,]] and  
retransmitting by said transceiver the copies of the specific packet in order at predetermined intervals the predetermined intervals including an inserted delay.